

Q Why does it make sense to do a blower-door test before installing the windows?

A Jake Bruton, owner of Aarow Building, in Columbia, Mo. and co-author of “Air-Sealing That Works” (Apr/18), responds: Testing a house multiple times may seem at first like a waste of time and money, but I see it as a wise investment as my company tries to build better homes. Here’s why.

When we do a blower-door test before the windows are installed, we’re able to test the airtightness of the building envelope alone. This initial test gives us the opportunity to check for errors or air leaks before introducing additional opportunities for leaks in the form of the windows. Testing prior to window installation allows us to first quantify and address any leakage in the shell itself. Once we get the shell as tight as we can, we are then able to quantify with a second blower-door test any leakage that might be caused by the installation of the windows. This second test also allows us to compare different window packages over different projects and pos-

sibly compare the effectiveness of different installation methods. Knowledge in the building industry is everything, and blower-door testing is the way to provide knowledge about air-sealing.

It is true that blower-door testing means lost production time. The testing effectively shuts down production for an entire day each time we test. However, we look at each of these lost days as contributing toward our understanding of how to build better homes and how to provide a better product for our clients.

We do have our own blower door and conduct our own independent tests. However, the municipality requires us to have someone else do our certification test (for obvious reasons). But we still run all three tests ourselves—before windows, after windows, and a final test—before we pay for the certification test. This lets me check my numbers against the final numbers from the HERS rater.

For the record, the numbers for this house (which we covered in our April article) came in at .31 for just the envelope, .91 for the envelope with windows, and .95 at final. I’m pretty sure that the jump between the last two tests came from an entry door that was installed for the final test, but not at the time of the window test.



Testing before and after windows. A first blower-door test (above left) tests the building envelope alone. Sheathing is installed with taped seams, but the openings for the windows are not cut out. This test lets the author identify and address any air leaks in the shell. A second test (above right) is performed after the house is insulated and the windows and doors have been installed. Comparing the numbers from the two tests quantifies how much air leakage is due to the windows, separate from the shell.

Photos by Jake Bruton

Q Are drywall screws acceptable for installing kitchen cabinets? If not, what screws should I use?

A Doug Horgan, vice president of best practices at BOWA, a design/build remodeling company in McLean and Middlebury, Va., responds: When I started out in the remodeling business (back in the dark ages), I almost always installed kitchen cabinets with drywall screws. And maybe due to blind luck, I never saw a failure. But those kitchens are not a big sample size, and I have snapped enough drywall screws since to understand that I was taking a risk by using them.

First, I should point out that in this discussion, we are most concerned with wall cabinets that depend on attachment screws to support their weight—literally hanging from the wall. If an installation screw fails on a base cabinet, it's not going to fall and possibly hurt someone or do damage. With that in mind, drywall screws start out with a couple of strikes against them.

The first drawback is the bugle-shaped head. Although it makes drywall screws a good choice for drywall, it makes them a poor choice for hanging cabinets. The tapered shape of the bugle head tends to bury itself in any material it's screwed into, so that shape is not nearly as good at drawing a cabinet to the wall and keeping it

there as is the washer head on screws that are designed specifically for attaching cabinets.

The next drawback to drywall screws is the Phillips-head drive, which requires you to apply pressure to avoid cam-out. Applying adequate pressure isn't always easy when hanging a wall cabinet from below.

Most cabinet screws have Torx-drive or star-drive heads that keep the driver bit engaged with the screw with much less effort. These specialty screws are readily available at most building supply stores. GRK is one brand that's now common at the big box stores; McFeely's is also a good source that is sometimes even less expensive than the big box stores, if you don't mind ordering online. Specialty cabinet-hanging screws add only \$5 or \$10 to the cost of a kitchen, so using them is a no-brainer.

Just as important as the screw type is the material you are driving the screws through and into. Stock cabinets are often made from low-grade material that can have trouble standing up to any kind of fastener. If the cabinet material is of questionable strength, reinforcing the cabinets with 1-by cleats inside or along the top back edge is cheap insurance. Then make sure that the screws hit the framing behind the cabinets. I try to use screws that will have at least 1 inch of thread going into the framing. I also try to drive screws into every framing member behind each cabinet.